User's Manual

Portable Data Collector Series

Revision History

Changes to the original manual are listed below:

Version	Date	Description of Version
1.0	05/01/2013	Initial release
1.1	10/09/2013	Added firmware update info
1.2	10/25/2013	Corrected resetting procedure
1.3	08/22/2014	Auto charger off timer data corrected

Important Notice

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Power Supply

- Use only the type of battery and the charging equipments that came with your scanner.
- Using any other type of battery and charging equipment may damage the scanner and invalidate the warranty.
- The main and backup batteries may not be charged to full for shipment.
- Do not attempt to split or peel the outer casing.
- Remove the battery if the scanner is not going to be used for a long time. If the battery is left unused for more than 3 months, you need to charge the battery before use.

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Guidance for Printing
This manual is in A5 size. Please double check your printer setting before printing it.

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Power Supply ..... *i*

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Introduction

With simplicity in mind, the data collector is built for mobility and performance. It is highly reliable and smartly designed for all data collecting applications.

Features

- Simple, easy to understand interface
- Transflective LCD for a wide working condition
- No programming background required
- 10 menus + 10 forms + 3 lookup for maximum flexibility
- Application Simulator

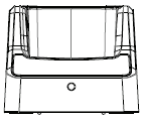
PC System Requirement

- Windows XP Service Pack 2 or above
- Microsoft Internet Explorer 5.01 or later
- Microsoft Framework 2.0

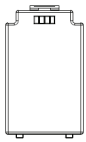
Package Contents

Items contain in the package may vary depending on the model of the data collector.

Data Collector



Cradle



Li-ion Battery

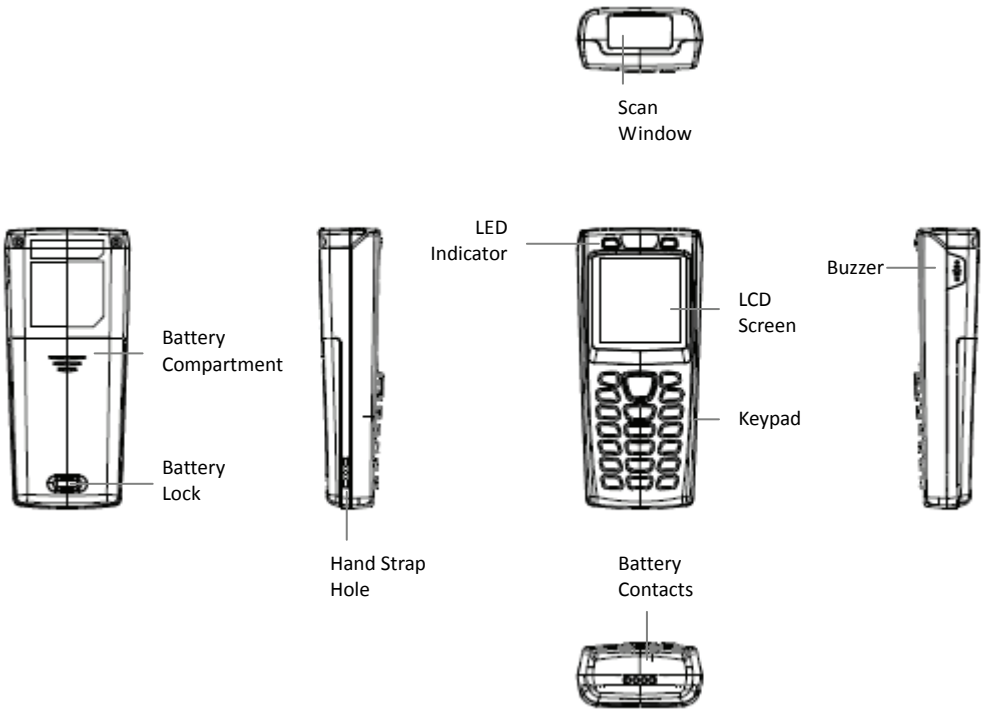
USB Cable

Power Adapter

Hand Strap

Overview

Refer to the following illustrations to familiarize yourself with the data collector.



Description	Function
Scan Window	Emits a red beam for barcode reading
Battery Compartment	Batteries are stored here
Battery Lock	Secures the battery compartment
Hand Strap Hole	Used to attach hand straps
LED Indicator	Indicates reading status: Red for scanning error such as wrong data type or no data match and green for good read
LCD Screen	Display various data when a program is being run
Keypad	A total of 21 keys are provided to the power and other function keys
Battery Contacts	For charging battery
Buzzer	Emits audible indication sounds

Device Information

Battery

Main Battery: Li-ion battery pack 3.7V 1150mA
Battery Life: 150 hrs (Laser/CCD version, based on one scan per 5 secs)
Backup battery: Lithium battery 3.0V 15mAh
Charging current: 500mA (MAX)
Auto charger off timer: 6.2 hrs

Memory

8MB FLASH ROM
4MB SRAM (with ability to data retentions)

Keypad

21 keys alpha / numeric (include Power and SCAN key) with white back light

LCD Screen

LCD type: 128 x 128 graphic mono FSTN LCD
LCD backlight: LED White
View Area: 43.0 x 42.8mm
Font size: 8 * 15 pixels
Characters by lines: 16 characters by 8 lines

LED Status

1 green color LED and 1 red color LED for indications.

Data Capture

This table gives the default settings of the symbologies.

Symbology	Default
Codabar	Enable
Code 39	Enable
Code 93	Enable
Code 128	Enable
Code 11	Disable
Italian Pharmacode	Disable
Chinese Post Code	Disable
Interleaved 2 of 5	Enable
EAN / UPC	Enable
MSI	Disable
Telepen Parameter	Disable
Industrial 2 of 5	Disable
Standard 2 of 5	Disable
Matrix 2 of 5	Disable
GS1 Databar	Disable

Symbology	Code ID Default
Codabar	N
Code 39	M
Code 93	L
Code 128	K
Code 11	O
Chinese Post Code	H
Interleaved 2 of 5	I
EAN-13	F
UPC-A	A
UPC-E	E
EAN-8	FF
MSI	P
Industrial 2 of 5	D
Standard 2 of 5	S
Matrix 2 of 5	G
GS1 Databar	RS
GS1 Databar Expanded	RX
GS1 Databar Limited	RL

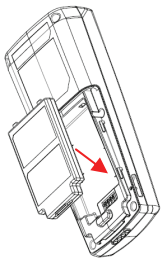
Symbology	Barcode Length
Codabar Code 11 Industrial 2 of 5 Standard 2 of 5 Matrix 2 of 5	Maximum:32 Minimim:6
Code 39 Code 93 Code 128	Maximum:62 Minimim:3
	Maximum:62 Minimim:3
	Maximum:62 Minimim:3
Chinese Post Code	Maximum:16 Minimim:10
Interleaved 2 of 5 MSI	Maximum:32 Minimim:4
	Maximum:32 Minimim:4
GS1 Databar GS1 Databar Limited	Maximum:14 Minimim:14
GS1 Databar Expanded	Maximum:48 Minimim:6

Getting Started

Refer to the following illustrations to learn the basics of the data collector in this section.

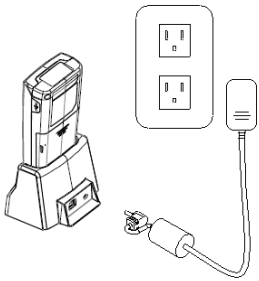
Inserting Battery

1. Push the lock lever to unlock the battery lock.
2. Remove the battery cover from the data collector.
3. Insert the battery with the top side in first then the side with battery contact. The battery is held in place by a small lock on the bottom of the compartment. Push the battery in until it clicks into place.
4. Slide the battery cover back on to secure the battery.



Charging the Battery

1. Place the device on the cradle.
2. Connect the power adapter to the cradle and to a wall outlet.
3. Battery status on the LCD screen indicates that your battery is charging.



Installation

Follow the instructions below to install ZAC driver on your computer.

1. Connect the device to your computer via USB cradle.

2. A window appears in the bottom right-hand corner of Windows that says “Found new hardware”. In a few seconds a "Found New Hardware Wizard" window opens up. Double click the found new hardware icon to pull up the window if it does not appear automatically. Select "No, not this time" to continue.

3. Click "Next" to continue installation.

4. Click “Install from a list or specific location (Advanced)” and click “Next”.

5. Check the “Include this location” option and use “Browse” to locate the driver in your computer. Click “Next” to go to the next step.

6. Click “Next” and “Finish” when the installation is done.

Power on the Device

Press and hold the power button to turn the power on or off.

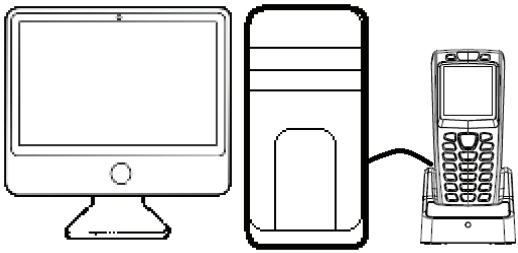
Connecting to PC

To use the software supplied with the data collector, it must be connected to a PC.

Connecting via Cradle

To connect the data collector to a PC via cradle:

1. Place the data collector on the cradle and connect the cradle to PC using the USB cable.



2. The PC should auto-detect the device as a COM device and ask for the driver when connecting the first time.
3. Please download and install the driver from the CD. The system should assign a COM port to the device after the driver installation.

- Connect the power adapter to the cradle when necessary.
- Make sure the unit is turned on after the cable is connected.
- Check the COM and LPT section in the device manager for the assigned COM port. The data collector should appear as a virtual com device.

Running the Device on PC

1. Install and run ZAC on your PC.
2. Make sure the virtual COM port driver is installed.
3. Run any connection program on ZAC. For more details please see the ZAC User's Manual.
4. Check the device manager on your PC for the COM port and set the same value in ZAC Setting to connect the device.

Loading Application from PC

1. Follow the previous instructions to connect the data collector.
2. Select "3.Utilities/6.Application" on the data collector.
3. Select "Send Application" in ZAC.

Loading Lookup table from PC

1. Follow the previous instructions to connect the data collector.
2. Select "3.Utilities" and "9.Load Lookup" on the data collector.
3. Select "Send Lookup" in ZAC.

Resetting the Device

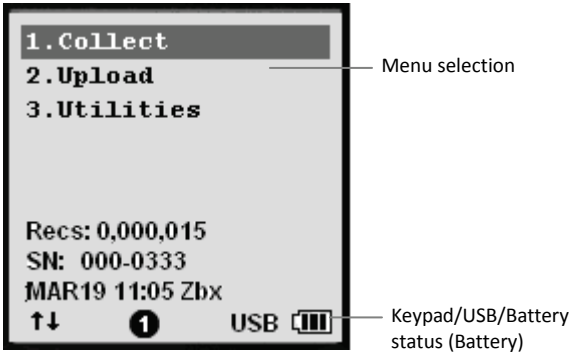
1. Press and hold the ⮟ and ⮝ buttons then press the Power button.
2. Release the Power button when you see the reset message on the screen.
3. All settings will reset to the default values.

Uploading Data

1. Follow the previous instructions to connect the data collector.
2. Select "2. Upload" from the menu screen to start uploading data.
3. Select the data to be uploaded in the next screen and press enter or press ESC to exit.
4. Select Transfer/Direct-Link Data Transfer in Zac to start upload.

Working with Menus

- Press the ⮟ or ⮝ buttons or the number keys to move the cursor to the desired option.
- Press the Enter key to enter the menu option.
- Press ESC to go to the previous screen.



Menu Screen

Menu Description

Menu	Description
Collect	Select this option to start recording data. You can scan barcodes or enter the data manually.
Upload	Select this option to: ● Upload Data file ● Upload lookup file ● Upload all files 1 by 1 ● Upload all files as append

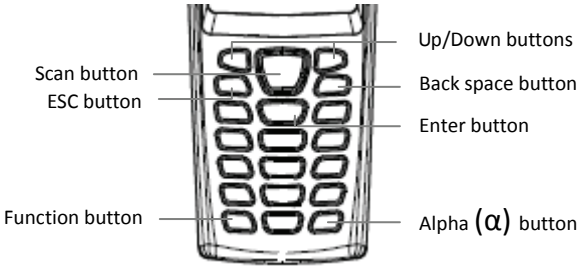
Task Utility	Select this option for: 1. Settings 2. Browse Data 3. Delete Data 4. Reader Test 5. Set Date/Time 6. Load Application 7. Memory & Power 8. Calculator 9. Load Lookup (when lookup is available this option becomes option 8 and calculator becomes option 9)

Using the Data Collector

Refer to the following section to learn how to use the data collector.

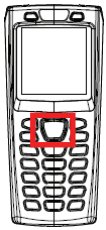
Scanning and Keying in Data

The keypad includes alphanumeric, assorted characters, navigation and function buttons.



Scanning the Barcode Data

1. Power on the device and select "1.Collect" to enter scanner mode. Press and hold the yellow SCAN button. A light beam will be activated and shoot out from the window at the lower front end of the data collector.



2. Aim the beam at the barcode to be scanned. A beep will be given and the beam will disappear if the data scanned has been successfully decoded by the data collector. The decoded message will then be displayed in the LCD.

3. The scanned data will be stored as soon as the SCAN button is released, and the next barcode is ready to be scanned.

Keying in Data via keypad

Inputting Numerical Data

- To input numerical data, press the corresponding keys.
- To save the input data, press Enter after the data is input.
- To delete the data, press the Back space button.

Inputting an alphabetical character

- To input an alphabetical character, first find the appropriate key. The following table displays the numerical keys and their corresponding alphabetical characters.
- Press the key, and the numerical character corresponding to the key will be displayed. Pressing the α key to switch between alphabetical and numeric entry. A "1" or "A" or "a" appears on the screen indicating the current mode.
- When in the alphabetical entry modes "A" or "a", press the keys repeatedly until the desired character is approached.

Keypad	Corresponding Characters							
2	A	B	C	a	b	c		
3	D	E	F	d	e	f		
4	G	H	I	g	h	i		
5	J	K	l	j	k	l		
6	M	N	O	m	n	o		
7	P	Q	R	S	p	q	r	s
8	T	U	V	t	u	v		
9	W	X	Y	Z	w	x	y	z
0	/	*						
1	Space							
-	+	$						
.	%	#						

Working with Utilities

Select "3.Utilities" from the menu screen to begin working with included utilities.
The utilities menu includes the following options:

Settings

Settings allow you to manage and view the system parameters. Use the ⮟ or ⮝ buttons to move the cursor and press enter to select the value.

Setting	Value	Function
Upload Port	Cradle-USB IrDA Modem Ethernet	View the communication setting for uploading
Download Port	Cradle-USB IrDA Modem	View the communication setting for downloading
Baud Rate	9600 19200 38400 57600 115200	View the baud rate for connection
Backlight	Turn B/L off, Turn B/L on	Turn the backlight on or off
Data Deletion	Manual Automatic No	Decide data deletion mode
Entry Option	No Prompt Show Count Show Data	Decide what to show after an entry. You can also set the prompt time by entering a number
Buzzer	Key Click Barcode Read Warning Beep	In Key Click, select tone1~5 or mute for the key sound and select one to three beeps or mute for the Barcode Read and Warning Beep
View Settings	System parameters	All the system parameters set are displayed here
Cursor Mode	Disable Cursor Fixed Cursor Blink Cursor	Decide the cursor mode for data input

Browse Data

Inputted data and the data in lookup can be viewed here.

1. Select "3.Utilities" and "2.Browse Data" from the menu.
2. Select "Date File" or a "Lookup" to view the information.
3. In "Date File", press the function key + "8" to edit data and press the function key + "9" to delete data.

Delete Data

Use this option to delete inputted data.

1. Select "3.Utilities" and "3.Delete Data" from the menu.
2. Select "Date File" or a "Lookup" to delete data.
3. Select "All data" to delete all inputted data or "Last one" to delete the last inputted data.
4. Select "Cancel" to exit.

Reader Test

Use this option to identify the type of the barcode scanned.

1. Select "3.Utilities" and "4.Reader Test" from the menu.
2. Press the scan button to scan a barcode.
3. The barcode information displays on the screen.

Set Date/Time

Use this option to set the date and time for the device.

1. Select "3.Utilities" and "5.Set Date/Time" from the menu.
2. Press "1" to enter the calendar screen or "2" to enter the time screen.
3. Use the numeric keys or the ▼ or ▲ keys to set the correct date and time.

Load Application

This option enables you to load the settings you configured on ZAC to the device.

1. Follow the previous instructions to connect the data collector.
2. Select "3.Utilities" and "6.Load Application" on the data collector.
3. Select "Send Application" in ZAC.

Memory & Power

Use this option to display the memory and battery information.

1. Select "3.Utilities" and "7.Memory & Power" from the menu.
2. The memory and battery information displays on the screen.

Calculator

Use this option to use the data collector as a calculator.

1. Select "3.Utilities" and "8.Calculator" (or when lookup is available, select 9.Calculator).
2. Use the numeric keys to enter numbers, - key to toggle between +,-,x,÷, enter key for =, BS for back space, and ESC to exit.

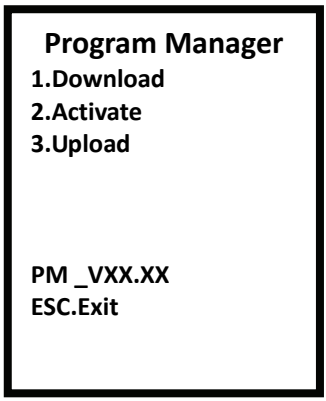
Load Lookup

Use this option enables you to load lookup table to the device from ZAC

1. Follow the previous instructions to connect the data collector.
2. Select "3.Utilities" and "9.Load Lookup" on the data collector.
3. Select "Send Lookup" in ZAC.

Program Manager

Press the numeric key "8" and power button at the same time to enter Program Manager.



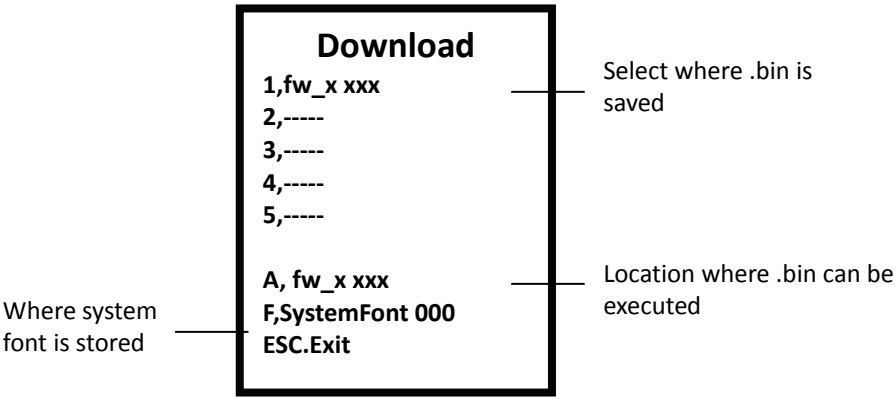
Menu Description

Menu	Description
Download	Download OS / Customer Program to the device
Activate	Activate OS / Customer Program
Upload	Upload OS / Customer Program to PC

Download

Use this option to download OS / Customer Program to the device.

Must be used along with "Boot Load Utility Rev x.xx.exe".



1. Execute "Boot Load Utility Rev x.xx.exe" and set the appropriate settings. Press "Start Boot Load" to begin download.

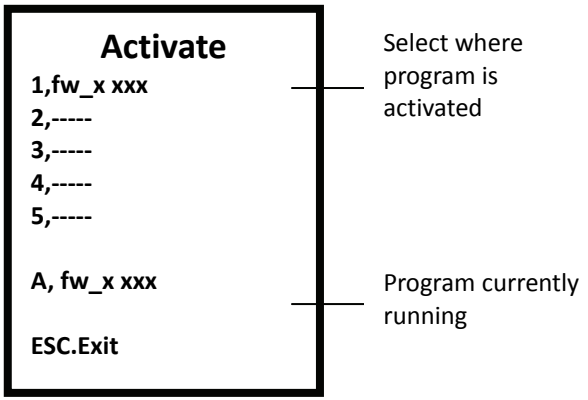
2. When downloading the .bin file, select 1~5 or A to store the file. After the selection, connection can only be made when you place the device on the cradle.

3. If you selected 1~5 in step 2, you must also select "2.Activate" to begin the download procedure.

4. If you selected A in step 2, the download procedure begins right away. It is not necessary to select "2.Activate" to begin the download procedure. The procedure can not be undone once it begins.

Activate

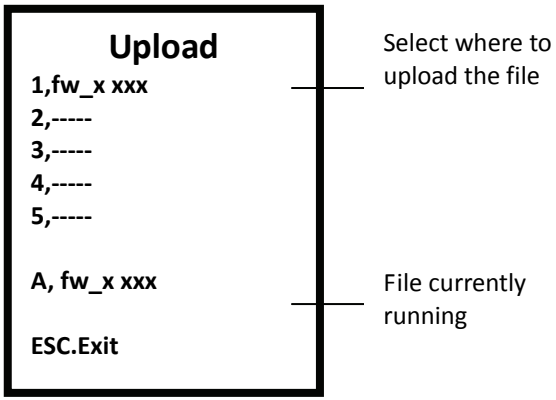
Use this option to activate OS / Customer Program to the device.



1. Select an available option from 1-5 and press Enter for detailed information.
2. Press F3 to activate once in the detailed information screen.
3. Press ESC to exit Program Manager after activation to begin using OS / Customer Program.

Upload

Use this option to upload OS / Customer Program to PC..



- When uploading the .bin file, select 1~5 or A to store the file. After the selection, connection can only be made when you place the device on the cradle.

Updating Firmware

To ensure optimal performance, please upgrade to the latest firmware. Please contact your dealer for more details.

1. Power off the unit.
2. Press 8 and the Power key at the same time to enter Program Manager.

Program Manager
1.Download
2.Activate
3.Upload

PM _VXX.XX
ESC.Exit

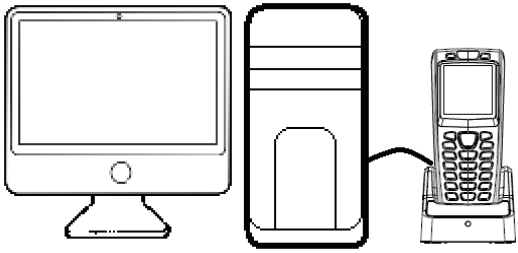
3. Select "1. Download " and press Enter to enter the Download screen.

Download
1,-----
2,-----
3,-----
4,-----
5,-----

A, fw_x xxx
F,SystemFont 000
ESC.Exit

4. Select an empty slot to to store the file and press Enter. Please remember the slot number you selected for later use.

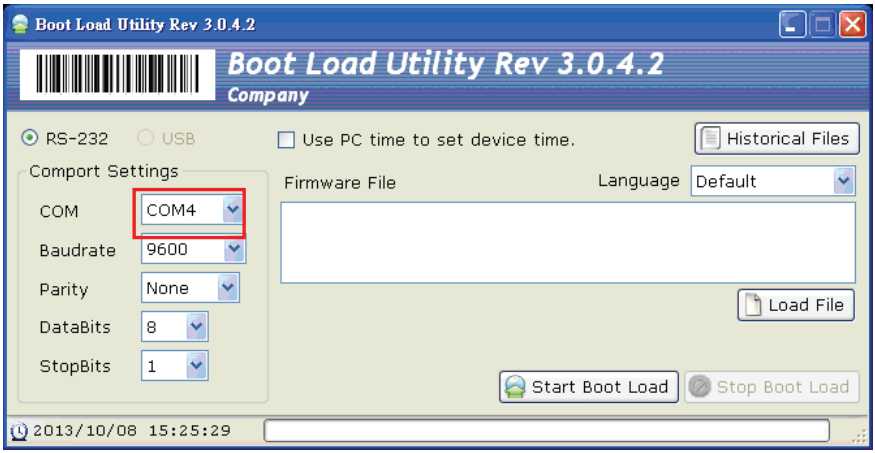
5. The "Please Plug The USB Cable" screen appears. Connect the cradle to the computer and plug in the power adapter; place the unit in the cradle when ready. Please install the driver if necessary.



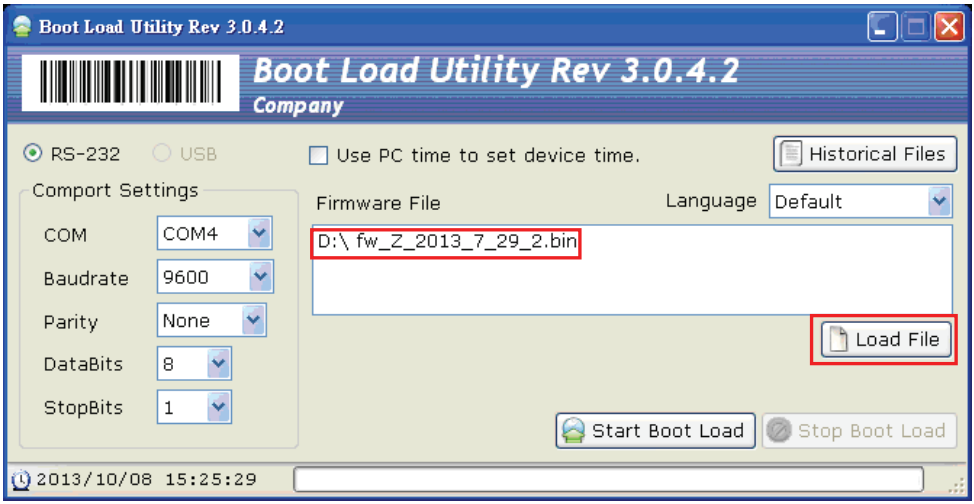
6. On your computer, please open the Boot Load Utility (default path: Start>All Programs>ZEBEX>ZAC>Boot Load Utility).

7. Check the Device Manager on your computer for the COM port your data collector is using.

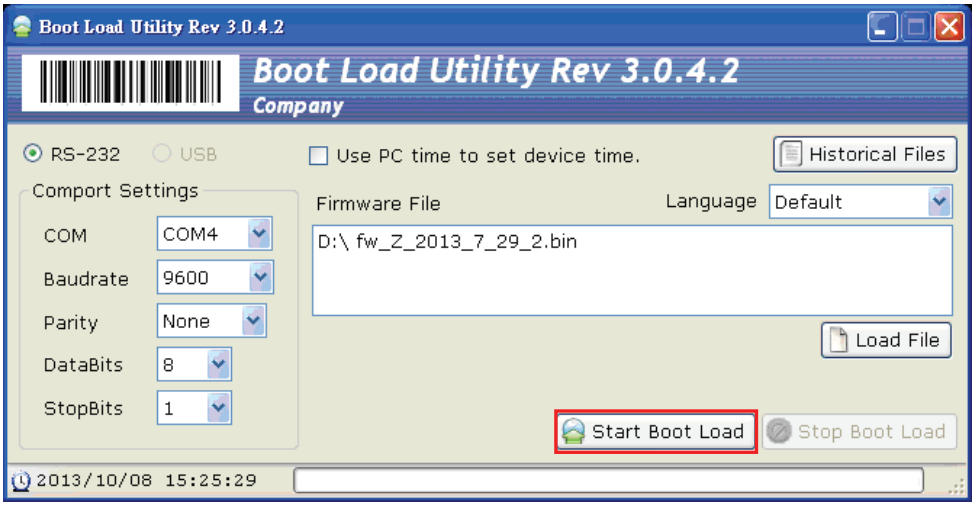
8. Select the same COM port in Boot Load Utility.



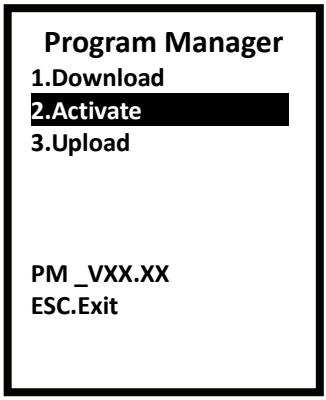
9. Select "Load File" then select the firmware file stored on your computer.

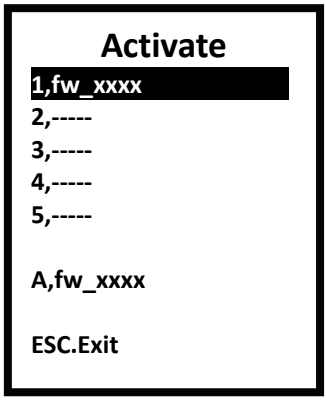


10. Select "Start Boot Load" to transfer the file to the data collector. You will hear a beep sound when the transfer is done. The Download screen appears on the data collector screen. Press ESC to exit the screen when ready.

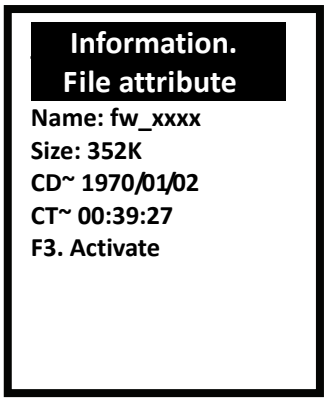


11. Select "2. Activate" then select the file slot you selected in step 4 and press enter.





12. Press FN and 3 at the same time to activate the file.



13. A message appears on the screen "Are you sure to activate file?" Use the up/down arrow keys to select "YES" then press enter to begin update.
14. The screen will return to the Activate screen when the update is done.

Upgrade Warning

- Incorrect operation may cause dysfunction or damage to the unit.
- Please choose the correct firmware file.
- Do not remove power or reboot the system until the firmware upgrade procedure is complete to avoid possible damage to the unit.